

XIII.—*On the Land-birds of Juan Fernandez.*

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(Plate VII.)

WHAT is commonly known by the name of Juan Fernandez is really a group of islands, or rather of two larger islands and several smaller ones, lying in the South Pacific Ocean some four hundred miles from the coast of Chili, in about 34° S. lat. The indigenous fauna of this island-group, like that of all oceanic islands, possesses special points of interest; and I need therefore make no apologies to the readers of 'The Ibis' for endeavouring to put together the little that is known concerning its land-birds, more especially as there is some hope that this may lead to a more complete investigation of the subject.

The largest of the Juan Fernandez group is called *Mas-a-tierra* (or more towards land), and contains an area estimated as about seventy square miles. Its northern half presents a lofty basaltic formation, intersected by narrow fruitful valleys; the southern half is less elevated, but rocky and barren.

The second island of the group, called *Mas-a-fuera* (*i. e.* further out from land), lies about ninety miles outside Mas-a-tierra, and is said in most geographical books to be little more than a volcanic rock. Of the smaller islets it is not necessary for our present purpose to say any thing.

The Juan Fernandez group was well-known to the earlier navigators of the Pacific, but was never explored zoologically, so far as I know, until it was visited by Captain King during the commencement of the well-known Admiralty Survey of the Straits of Magellan. In the first volume of the 'Narrative' of this expedition, by King and Fitzroy (p. 302 *et seq.*), will be found an account of the observations made by Captain King during his short stay in Mas-a-tierra in February 1830. "Land-birds," he says, "are not numerous; some Pigeons, said to have been introduced, and a few Hawks are occasionally seen, besides three species of Humming Birds two of which are new to science"*.

* These two supposed new Humming-birds were afterwards shortly characterized by Captain King in the Proc. Zool. Soc. 1830-31, p. 30, as

The next naturalist that explored Juan Fernandez was the late Mr. Thomas Bridges, C.M.Z.S., so well-known for his zoological discoveries in Bolivia and Chili, of which, most unfortunately, no connected account has ever been published. Mr. Bridges paid a visit to Mas-a-tierra, some time in 1853 or 1854, and collected a large number of specimens of Humming-birds, but no other birds, so far as I know. Most of the principal collections in Europe were supplied with skins of the Humming-birds of Juan Fernandez by this indefatigable collector*.

More recently the authorities of the National Museum of Santiago, in Chili, have sent zoological collectors both to Mas-a-tierra and Mas-afuera, and have obtained, beside the Humming-birds previously known, specimens of a closely allied species of *Eustephanus* from the latter island, and examples of several other species of land-birds hereafter mentioned†.

From these sources we have become acquainted with the existence of the following species of land-birds in Juan Fernandez.

1. ANÆRETES FERNANDEZIANUS. (Plate VII. fig. 1.)

Culicivora fernandeziana, Philippi, Wieg. Arch. 1857, pt. i. p. 265; Ph. et Landb. Cat. Aves Chil. p. 22.

Euscarthmus fernandezensis, Gray, Hand-list, i. p. 351.

This species is a representative form of *A. parulus* of Chili, but is distinguishable, as pointed out by Dr. Philippi, by the absence of olive tinge in the plumage, the pure white of the breast and belly varied with more strongly marked black streaks, and the longer bill. The specimens described by Dr. Philippi were obtained for the Museum of Santiago, in one of the collecting-expeditions above mentioned.

There is a single mounted specimen of this bird in the British

Trochilus fernandensis and *T. stokesi*. As has been subsequently shown, they are really male and female of the same species.

* Mr. Bridges appears to have been quite aware that *Eustephanus fernandensis* and *E. stokesi* were the two sexes of the same species; for M. Jules Verreaux informs me that Mr. Bridges expressly spoke of this being the case in conversation with him, at Paris, after his return from South America.

† Cf. Selater, P. Z. S. 1865, p. 556.

Museum (*Euscarthmus fernandezensis* of Mr. Gray's Hand-list), whence the figure (Pl. VII. fig. 1) has been taken.

2. OXYURUS MASAFUERÆ (Plate VII. fig. 2).

*Synallaxis masafueræ**, Ph. et Landb., Wiegman. Arch. 1866, pt. i. p. 124, et Cat. p. 13.

This little bird was described by Philippi and Landbeck, in one of their articles on new Chilean animals, published in Wiegman's Archiv. It is a close ally and representative of *Oxyurus spinicauda*, a well-known Chilean form of *Synallaxis*, the only previously described species of the genus.

O. masafueræ seems to be restricted to the island of which it bears the name, as Dr. Philippi's collectors never obtained specimens in Mas-a-tierra, although they made a diligent search for it. In Mas-afuera it is found in the woods in small flocks, and has the same habits as its Chilean representative.

For the opportunity of examining and figuring this species I am indebted to the kindness of Mr. Wilson Saunders, who has obliged me with the loan of two specimens, which were forwarded to this country by Mr. Edwin Reed. These were, no doubt, duplicates obtained by Dr. Philippi's collector.

3. EUSTEPHANUS FERNANDENSIS.

Male.

Trochilus fernandensis, King, P. Z. S., 1830-1, p. 30.

Eustephanus fernandensis, Gould, Troch. iv. pl. 267.

Female.

Trochilus stokesi, King, P. Z. S., 1830-1, p. 30.

Eustephanus stokesi, Gould, Troch. iv. pl. 266.

Mr. Bridges, as I have already stated, seems to have been well aware that these two very different-looking birds are the male and female of the same species; but either he did not inform Mr. Gould of it, or failed to convince him on the subject, as we find no suspicion of the fact mentioned in the great work on Humming-birds.

In December, 1866, Mr. Landbeck, subdirector of the Na-

* In Wiegmann's Archiv the specific term is misspelt "*masafueræ*."



Smith del.

M & N Hanhart imp.

Fig. 1. ANÆRETES FERNANDEZIANUS
- 2. OXYURUS MAS-AFUERÆ.

tional Museum of Santiago, transmitted to me specimens of the adult and young of both sexes of this bird, with the information that they had been obtained by collectors sent to Juan Fernandez by the Museum of Santiago, and that as they had been found paired, and as the red and green young had been found together in the nest, there could be no longer any doubt on the subject*. The fact of the young differing at so early a stage is somewhat unusual, but is not without parallel. In the case of the Upland Goose (*Chloephaga magellanica*) there is nearly as early a divergence of the sexes†.

4. *EUSTEPHANUS LEYBOLDI*, Gould, Ann. Nat. Hist. ser. iv. vol. vi. p. 406.

Under the name *Eustephanus leyboldi*, Mr. Gould has described a green Humming-bird from Mas-afuera closely resembling the so-called *E. stokesi* (i. e. the female of *E. fernandensis*), but differing in having the throat differently spotted, so as rather to resemble *E. galeritus*, and the inner webs of the rectrices wholly white. Several red Humming-birds collected at the same time differ slightly from the male of *E. fernandensis*. Not having myself the slightest doubt of *E. stokesi* being the female of *E. fernandensis*, I have also no doubt that Mr. Gould's green *E. leyboldi* is the female of the corresponding red bird of Mas-afuera. Although in representative species the females are often similar, while the males differ, it is possible that the contrary may sometimes be the case; and here, I suppose, we have an instance of it. I therefore adopt *leyboldi* as the specific name for the *Eustephanus* of Mas-afuera.

5. *EUSTEPHANUS GALERITUS* (Mol.).

Trochilus galeritus, Mol. : *Eustephanus galeritus*, Gould, Mon. Troch. vol. iv. pl. 265.

Trochilus sephanoides, Ph. et Landb. Cat. Av. Chil. p. 9.

There can be no doubt, I think, of this Chilean species being also found in Mas-a-tierra, although it would not appear to be

* See my remarks on exhibiting these specimens to the Zoological Society, P. Z. S. 1866, p. 556.

† Cf. P. Z. S. 1858, p. 289. [Also cf. Darwin, Descent of Man, ii. p. 219.—Ed.]

likely that such would be the case. *E. galeritus* was, I believe, the third species of Humming-bird obtained by Captain King in Mas-a-tierra; and Mr. Gould tells me that Mr. Bridges likewise brought specimens of it from the same island. Messrs. Philippi and Landbeck also record its occurrence in Juan Fernandez in their catalogue of the birds of Chili.

6. Buteo erythronotus (King).

Haliaetus erythronotus, King: *Buteo erythronotus*, Strickl. Orn. Syn. p. 34; Ph. et Landb. Cat. de las Aves Chilenas, p. 3.

Mr. Salvin procured a skin of this Buzzard, from a collection sent to this country by Mr. Reed, which was labelled as coming from Mas-afuera. It was, no doubt, obtained by the same collector who discovered *Eustephanus leyboldi* in that island.

It appears therefore that the terrestrial avifauna of the Juan Fernandez Islands, so far as it is yet known, comprehends only six species. These may be divided into two categories.

1. Species known to occur elsewhere—*Eustephanus galeritus* and *Buteo erythronotus*.

2. Species not known to occur elsewhere—*Anæretes fernandezianus*, *Oxyurus masafuerae*, *Eustephanus fernandensis*, and *E. leyboldi*.

As regards the first category, it is sufficient to remark that the two species contained in it are both well-known inhabitants of Chili.

As regards the second category, the first two in the list, although specifically distinct, are more nearly related to Chilian species than to any others, and are, in fact, representative species—the former of *A. parulus*, and the latter of *O. spinicauda*.

The case of the Humming-birds requires a little more consideration. There can be no doubt that their nearest ally is *Eustephanus galeritus* of Chili, the only other known member of the genus *Eustephanus*; but as *E. galeritus* itself occurs in Mas-a-tierra, it would be, at first sight, incorrect to call them representative species. Yet I think there can be no doubt that this is really the case, and that we have here an interesting example

of how it may come to pass that two representative species may coexist in the same area. The original colony of *E. galeritus*, or rather of the *Eustephanus priscus*, from which all existing *Eustephani* are descended, arrived in Juan Fernandez with the green plumage which, at that period, clothed both sexes of *E. galeritus* and the females of *E. fernandensis* and *E. leyboldi*. Natural selection or the "*vis Darwiniana*," as we may call it (to which, according to Mr. Mivart, some other unknown *vis*, the *vis Mivartiana*, must be added), set to work, especially on the male, and converted him into the brilliant red bird which he now is, leaving the female scarcely changed. During this period no fresh arrivals of the parent form, at any rate none of importance, could have taken place, or the operation of the *vis Darwiniana* on the male *Eustephanus* could hardly have produced any result. Within recent times, however, there has been a fresh irruption of *Eustephanus galeritus* from the neighbouring mainland; and we have thus both representative species now coexisting within the same area.

Mas-afuera must have received its colony of *Eustephani* from Mas-a-tierra after the male *E. fernandensis* had become red, but before the female had deviated so far from the parent form as she now does. Otherwise we cannot account for the female of *E. leyboldi* being more like *E. galeritus* than the female of *E. fernandensis*.

From all that has been before stated it will be obvious that, so far as we can judge from our present knowledge of the terrestrial avifauna of the Juan Fernandez group of islands, the following conclusions may be drawn.

1. The Juan Fernandez group belongs strictly, so far as its avifauna is concerned, to the Chilian or Patagonian division of the Neotropical Region.

2. All the species known to occur in it are either identical with, or closely allied representatives of, Chilian forms.

3. The Juan Fernandez islands have been peopled with life within a comparatively recent period, by immigration from the adjoining mainland of Chili.